

E-LEARNING AND ITS IMPACT ON THE ACADEMIC CULTURAL ENVIRONMENT

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ABSTRACT:

Distance learning, online courses and other aspects of e-Learning have spurred a need for a change of mentality, a change in the culture of professors and also in that of their students. New tools, such as social media and mobile learning come with new challenges and the way higher education institutions respond to them will shape their organizational culture and their success in the coming years. This paper aims to present these e-Learning tools and the changes they bring upon the academic cultural environment.

Keywords: e-Learning, social media, higher education, culture, organizational change

1. INTRODUCTION

E-Learning applied to higher education can be defined as "technology-enhanced teaching and learning within an education institution"(Nichols,2008,p.598).

In the **e-Learning action plan**(Commission of the European Communities,2001, p. 1) e-Learning is defined as: "...new multimedia technologies and the Internet to improve the quality of learning by facilitating access to resources and services as well as remote exchanges and collaboration". Acronyms such as TEL(technology-enhanced learning), CBT(computer-based training), CBL(computer-based learning) are used to refer to e-Learning. These definitions are appropriate for this article, yet, in order to understand it more thoroughly, we must discuss the different facets of e-Learning:

Types of e-Learning. According to Cîrnu,Potocan and Nedelko(2014,p.400), e-Learning can be divided in three broad types that take into account the traditional way of teaching and its role as well as its importance in the educational experience:

- 1)"Web-supported classic face-to-face education(e.g.:Moodle, virtual classroom for assignments, course materials, etc.")(Cîrnu et al,2014) – this is the most common form of e-Learning, with most universities situated somewhere in this category, be it through online course materials or more complex e-Learning tools, such as the virtual classroom.
- 2) Pure e-Learning, where lessons take place exclusively online through Skype, videoconferencing, online tests, virtual classroom assessments,etc.
- 3) A hybrid between traditional learning and e-Learning, where a part of the educational experience is conducted in face-to-face meetings, while another part takes place through

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the e-Learning tools. This hybrid is also called b(lended)-learning in some articles(Kraft et al,2012)

Most studies agree that e-Learning is a complementary tool, which can enhance learning if used in an organized manner, following clear objectives(Newton& Ellis,2007,p.553).

2. E-LEARNING ADOPTION

E-Learning is inherently influenced by the instructing personnel, which is influenced by the organizational culture. As any tool, its function and usage will be determined by the people that use it and their opinion about it; a tool/object is defined by the context in which it is used.

An article(Newton and Ellis,2007) discusses the way in which the Australian Army adopted e-Learning and adapted it in order to fit its existing organizational culture. As any new layer, the usual psychological response is to filter it through existing knowledge, see what fits and let go of the rest. This process played out in the case of the Australian Army, which went from e-courses designed to be completely independent and accessible by learners in their homes to a blend of e-Learning in the usual designated class space, with practical workshops. Instructors found e-Learning good for “simple practical tasks or theoretical subjects”(Newton and Ellis,2007) due to multiple reasons based on the organizational culture of the army. The Australian Army started with an ideal, pure e-Learning model but saw itself forced to adapt it to the existing organizational culture, which resulted in a hybrid e-Learning model(also called b-learning, short from blended learning).

A very important point made by Newton and Ellis(2007) is that adopting e-Learning is like any disruption in the usual way of doing things, and as such necessitates change management. The instructors actively resisted the implementation of the new way of teaching because they felt it was an order coming from higher ranks, leaving them powerless in the matter (as they were given no choice). Furthermore, students were beginning to treat them as though they were only technical staff and essentially acting like there was no authority figure in the room. Worries of getting out of touch with the subject matter and their students were also expressed, as well as the fear that e-Learning was depriving students of the professor as an example/role model.

Though similar to any innovation in the way instructors do their jobs, such as 35mm slide projectors, overhead projectors and ultimately the digital projector coupled with PowerPoint, e-Learning, especially in its pure form, is a highly disruptive change which actually affects the teacher role. E-Learning, similarly to web 2.0, shifts more power towards the consumer/student and bridges the power gap as internet-facilitated interactions have different rules than face to face interactions. Until such futuristic technology as hologram projection will be invented and adopted on a mass scale, people will be somewhat disconnected and show less respect towards the professor and colleagues in virtual classes; for many people the school/highschool/college building with its classes represented an artificial way of coercing them into paying attention.

It is true that even in a physical class environment many students would “zone out” or find other ways of entertaining themselves, yet arguably some information would be absorbed due to the multi-sensory experience, which has yet to be reproduced with fidelity. The onset

of this new age defined by multi-tasking, 15 minutes attention spans²(or shorter), superstimuli(artificially exacerbated stimuli that demand the attention of our primal brain, e.g.: sweetened chocolate, pervasive displays with moving images, genetically modified food, plastic surgery etc.), instant gratification(e.g.: pills, "1-click ordering", home delivery, same day shipping, nonstop stores and fast food places, etc.) has already taken place, therefore adaptation is inevitable, as many students are multitasking with laptops, smartphones or smartwatches worldwide.

3. THE ACADEMIC CULTURAL ENVIRONMENT AND E-LEARNING

An interesting view is offered by Huynh(2005), who discusses e-Learning through the filter of German sociologist and philosopher Jurgen Habermas. Habermas proposed a tripartite theory of cognitive interest centered on work, practical and emancipatory knowledge. These three types of knowledge result from three corresponding types of action: instrumental, communicative and emancipatory.

For Habermas, work knowledge is related to working with objects and content. Communicative knowledge is tied into culture and other individuals, while emancipatory knowledge is the result of reflection, meta-awareness and self-actualization and is tied into power, for understanding oneself leads to understanding others and increased awareness of the subtle manipulation others are attempting. The foundation for emancipatory knowledge is the desire of human beings to be free of inner and outer constraints by self realization through knowledge and learning.

The purpose of e-Learning is three-fold, according to Habermas' Cognitive Interest Theory(Huynh, 2005)

A) Instrumental(subject to object) –

the common goal of learning more, passing exams with high grades and generally mastering the provided content as reflected in the current means of testing for knowledge absorption (and comprehension)(e.g.: tests, group projects, assignments, etc.)

E-Learning manifests here as flexibility, as the opportunity to do things at one's own pace, wherever one may be, reviewing concepts that are unclear, despite the impossibility of asking for clarifications from the software. An important role is played by smartphones in this new era of "on-the-go" connectivity, which eliminate even more geographical and physical barriers.

B) Communicative(/subject to subject) –

focused on working in a team, understanding and being able to express more than content, talking with others about values, beliefs, intentions and negotiating with them in order to reach a common meaning and promote positive socialization.

E-Learning facilitates asynchronous and synchronous communication, yet makes it more difficult to build meaningful relationships(Mazalin & Moore, 2004). Depending on factors such as culture and age, some students prefer this sort of communication, while others are hampered by it.

² <http://www.wisegeek.org/what-is-considered-a-normal-attention-span.htm#comments>, accessed in November, 2014

- C) Emancipatory(/subject to itself) – focused on holistic learning, this type of knowledge is defined by interdisciplinary knowledge which leads to better self-knowingness and ultimately self-actualization.

The improvement that e-Learning offers to this type of action is that of easy data retrieval and interconnected information and also that of accurate, objective and impartial self-tracking. This helps self-actualization by offering an accurate outside perception which can confirm that of the learner and validate the impartiality of his instructor's feedback.

Huynh(2005) argues that learning productivity as a whole, not just e-Learning productivity, is a concept that doesn't suit academia without proper modifications. Applying Habermas' Cognitive Interest Theory to the concept of productivity in education leads one to such a conclusion, as it is quite evident that most higher education institutions address the issue of instrumental knowledge – passing exams, being able to think in abstract concepts, memorizing and showing capacity to use the information acquired, while the other two aspects of his theory are considered of lesser importance (as shown by the activities dedicated to them and by the proportion of testing methods that search for their implied outcomes).

He (Huynh,2005) talks about the erroneous “translation” of productivity from the production/engineering world to the teaching world:

Productivity is defined as:

“the ability to produce outputs, such as goods or services,taking into consideration the amount of inputs, such as raw materials, capital and labor, used to produce them.” (Office For National Statistics,2007,p.2)

In Economics, productivity is expressed as the ratio between outputs and inputs; the shortcomings of this definition lie in the difficulty of accurately isolating and measuring the inputs and outputs of the learning process.

To name a few inputs, we could list teacher preparation, enthusiasm, state of mind, speaking skills, empathy and student: preparation, state of mind(our emotions affect our capacity to learn by influencing our attention and implicitly our retention rate as presented by Sylwester in his 1994 article on page 60), intelligence quotient, feelings towards teacher, etc. How can someone measure these attributes in an accurate way, especially taking into account their changing nature throughout the academic semester? These are, of course, only some of the variables which constitute the inputs that, together with the outputs, would generate a meaningful representation of learning productivity.

As far as outputs are regarded, testing for recall of hard facts and skills such as mathematical problem solving is much easier than testing for the skills in the Habermas “communicative” or “emancipatory” category(though some of these skills such as team work skills, group decision making skills can be measured at an external, result-focused level, some cannot-the ability to explain and understand intention, values and attitudes –theirs and their group members'). Though measuring and testing for skills in the instructional category is harder than testing for those in the communicative category, testing for the presence of emancipatory skills is even more difficult, if not impossible.

To test for a positive change in the emancipatory skills(i.e.:learning-related self-actualization) of a person he would need to be observed not only during his formative years,

but also well beyond them, for self-actualization manifests itself over a long period of time. Self-actualization is an attitude, a way of handling learning situations, and not a simple memorization or understanding of how to solve a mathematical problem; it deals with context rather than content, which makes it so complex, because the light changes how the object appears(i.e.: the content changes depending on the context in which it is placed) – a good example of this is situational ethics.

Are the current higher education practices and testing methods accurate and conducive to “real”, whole, character-defining learning? That debate is far too great for the purpose of this article, which discusses the impact of e-Learning on the academic cultural environment.

The academic culture is helped by the e-Learning program through offering students and teachers flexibility in their schedule, accessibility to all the parts involved, breaking down social barriers such as shyness or the fear of not knowing in front of the class and allowing everyone to communicate on the same level, as status and possessions, wealth, looks, etc. are taken out of the equation. It hopefully leads to more open-minded students through acting like a ”social booster” that helps students come together and develop their soft skills, or what Habermas would fit into the ”communicative” and ”emancipatory” categories.

Table 1 Changes in the culture of higher education institutions determined by e-Learning, grouped according to the three areas of Habermas’ Cognitive Behaviour Theory

Habermas Category	Cultural situation before e-Learning	Cultural situation after e-Learning
Instructional	Class materials available in printed version variable ease of search determined by components such as book organization, presence of an index, number of pages access restricted by the physical copy of the book	Class materials available in a digital format considerably improved ease of search through document search by keywords access restricted only by the need for any digital device(which are readily available almost everywhere) and, sometimes, by internet access (which offers virtually unimpeded access anytime, anywhere, through free cloud storage)
	Focus and attention -distractions not inherent to the format of the knowledge(e.g.:book)	Focus and attention -distractions inherent to the nature of digital devices which are used for everything from entertainment to work, from personal to business affairs
Communicational	Some students are afraid to speak out	More students find the courage to type or speak in an online environment

	Some students bond easier through face-to-face communication	Other students bond easier through online chatting
	Synchronous discussions are restricted to participants in the same geographical location	Synchronous discussions are virtually unrestricted (provided there is an internet connection and a regular PC)
Emancipatory	Feedback is limited to personal interaction with the authority figure (i.e.:professor) and colleagues	Traditional feedback is available, to which the computer generated feedback is added
	Related content/Complex knowledge(i.e.:from other areas of expertise) is not usually obtainable in the moment of teaching	Related knowledge is easily accessible due to working on an Internet connected PC

E-Learning can also help by bringing students closer despite the geographical distance, and also by helping them feel more comfortable in their chosen environments(such as their home -which also empowers them, as they are allowed to choose the place where the learning takes place). In regard to the emancipatory knowledge, e-Learning is closely related to the “repository of human knowledge” quality of the internet which is a fertile ground for exploration and self-knowingness.

Another e-Learning **advantage** is shorter training times compared to traditional instructor led training and increased retention, according to an online article³

The most blatant **disadvantage** of e-Learning is an increased possibility of environmental distress factors which impact the students’ attention and ability to focus, whereas face-to-face, traditional communication is less likely to be interrupted by distractions (as most people prioritize persons in the same room over persons that are in a different location); an analogy would be managers which prefer that employees come to work, instead of working at home because few people have the discipline to work without peer pressure, supervision, etc. and because there's an unconscious belief that if someone is going to work where they can be seen, they will work more and spend less time on distractions. Furthermore, the ease of online communication, particularly text-based communication, is believed to be a factor in reduced face-to-face communication skills(Mazalin&Moore,2006). Another considerable disadvantage of current e-Learning programs is the proclivity of their designers to focus on the cost-saving and technological aspects, while neglecting the end-goal, differences in culture and sometimes even basic learning principles:

Organizational culture is the way in which people solve common problems in an organization. To understand it, we must understand culture, that adaptation mechanism(Hofstede,1984), which helps people act in society and do things the common socially accepted way.

³ <http://elearningindustry.com/top-10-e-learning-statistics-for-2014-you-need-to-know>

According to Lederach(1995,p.9)

"Culture is the shared knowledge and schemes created by a set of people for perceiving, interpreting, expressing, and responding to the social realities around them".

Organizational culture is simply a culture in a microenvironment, a way of dealing with internal integration and external adaptation problems that companies face(Schein,2004). On the surface, culture manifests as the application of certain rules of behaviour, certain processes within a company, ways of communicating and interacting with clients and colleagues. On a deeper level,culture is composed of the values, beliefs and intentions that drive the rules and behavior.

4. DIFFICULTIES IN IMPLEMENTING AN E-LEARNING APPROACH:

As noted by Newton and Ellis(2007), instructors and course designers must take into account the diversity within each class when preparing an e-Learning initiative; this has multiple levels, ranging from the basic computer skills needed to successfully navigate the e-Learning interface to student preference regarding theoretical or practical learning, optimum learning style(visual,auditory,kinesthetic) to cultural diversity, which influences all of the previous factors.

Cultural diversity is the most important factor which,as noted by Hofstede(1980) and brought to attention by Hutchins and Hutchison(2008), influences e-Learning at its roots(i.e.:designing the e-Learning course, from structure to content and learner styles). For example, most of the e-Learning software is created by anglo-american companies and therefore exhibits an overly individualistic and low power distance design which is perceived as foreign and ineffective in collectivist, high power distance cultures such as Asian countries.

In these Asian cultures(e.g.: China, India, Malaysia), users favour more guidance(more teacher input and involvement) and multi-sensory cues than those in western cultures and prefer a learning experience that is predominantly group-centered.

Computer literacy is another fundamental factor which influences perception regarding e-Learning efficiency and results. Even though most college-aged adults are well versed in the intricacies of computer usage, provisions must be made for those that lack these basic skills or are unsure of their computer skills(e.g.: a course on basic computer skills administered before the actual course; this would imply testing for these skills before the semester begins).

A common source of these design and execution problems is the view of e-Learning as a cost-cutter, which implies **standardization**; of course, a "one size fits all" approach does not fit with the view that e-Learning is applied globally and is closely related to interculturality by its application in multinational companies. While its asynchronous nature is a perfect fit for multinational training delivery, as it nullifies the hindrance of time and place (i.e.:physical location), this standardized approach offers mixed reviews and results because learning is an intimate process with particularities influenced by culture.

As discussed earlier, **student characteristics** vary among groups and are influenced by all instances of previous learning, beginning with kindergarten, all the way up to college, and even before this period(i.e.: home education).

Instructor characteristics are also an important factor in the overall technology-enhanced learning experience. Common concerns among instructors (in blended learning, i.e.:e-Learning+traditional learning) are reputation issues tied to the accuracy and recency of materials (caused by the inability to modify and collaborate on the course's design, skill fading issues(if the teaching is passed on to a computer, they will start to forget and become disconnected from the subject matter) and reduced personal importance/respect issues(they suddenly become a "facilitator", "IT support" people instead of "the authoritative professor"). Furthermore, e-Learning is usually a top-down decision, which frustrates professors even more, making them experience feelings of helplessness and insignificance. All of these instructor-related problems have been documented by Newton and Ellis(2007). Another problem that e-teachers share is that they aren't paid extra for embedding these skills in their courses, even though this translates into a major effort on their part, first to understand and get accustomed to these new tools, then to transform their courses into online/digital-friendly courses(Al-Shboul,2013 and Kraft et al,2012).

5. CONCLUSIONS

e-Learning is a new tool with a highly disruptive impact on the usual instructor/professor behaviors and implicitly culture. As any change, it is generally met with confusion, fear of the unknown and resistance. For a successful adoption of this new technology, higher education institutions must assess their needs, culture compatibility with the various e-Learning instruments and establish clear, measurable outcomes. E-Learning is not just a cost-cutter and in order to enjoy its full potential, higher education institutions must adopt it in a calculated , custom-tailored way. As in most new digital tools, the "one-size-fits-all" approach is suboptimal, mainly because the elements of culture are embedded in design and are often different from students' culture.

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